

No warm up. Check your answers, tan review:

1. -5

2. 3

3. -2

4. x

5. x

6. They are inverses.

8a. $3(x + 6)(x + 2)$

8b. $(2x + 5)(2x - 5)$

8c. $5x(2x - 9)$

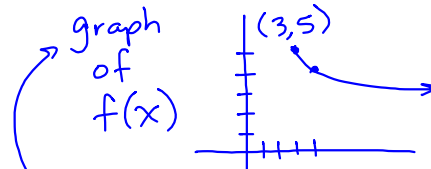
9. $x < -5$ or $x > -1$

10. $2 < x < \frac{10}{3}$

11. $-2 \leq x \leq 2$

12. $x \leq -2$ or $x \geq 8$

13. $-31 \leq x \leq 23$



15. $f(x)$: dom: $x \geq 3$
range: $y \leq 5$

Inverse: $y = (x - 5)^2 + 3$
dom: $x \leq 5$, range: $y \geq 3$

7) $y = 2 \log_3(x + 4) - 1$

parent equation:

$y = \log_3 x$
same as $3^y = x$

x	y
	0
	1
	2

Left 4
stretch $\times 2$

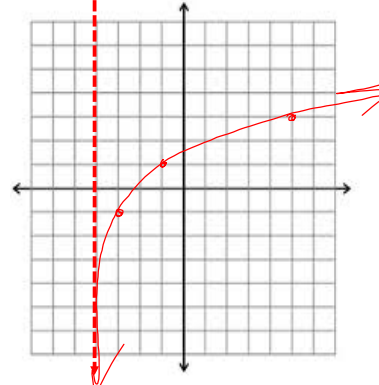
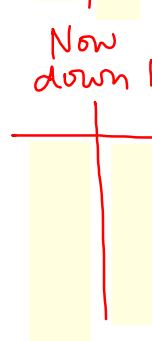
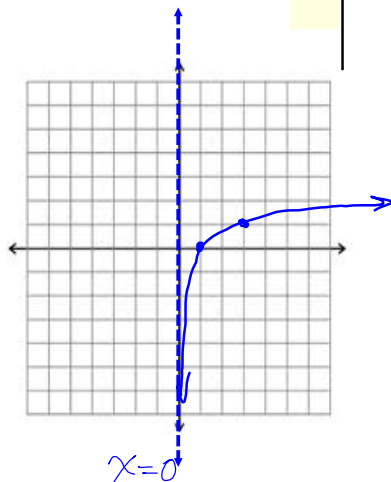
base?

transformations:

- Left 4
- Vertical Stretch of 2
- Down 1

Now down 1

$x = -4$



Alg 2B Compositions and Chapter 5 Review #1
 $f(x) = \sqrt{7-x} - 6$ $g(x) = -(x+6)^2 + 7$ Per. _____ Team _____
 1. find $f(g(-5))$ 2. find $g(f(3))$ 3. find $f(g(-10))$

4. find $f(g(x))$

5. find $g(f(x))$

$$\begin{aligned} & \sqrt{7 - (-(-10 + 6)^2 + 7)} - 6 \\ & \sqrt{7 - (-16 + 7)} - 6 \\ & \sqrt{7 + 16 - 7} - 6 \\ & 4 - 6 \\ & -2 \end{aligned}$$

6. What do the results of 4 & 5 tell you about $f(x)$ & $g(x)$?

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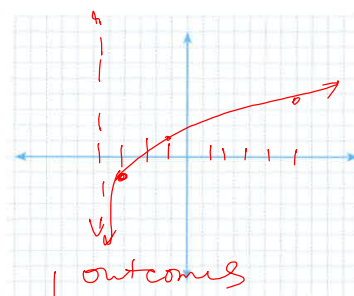
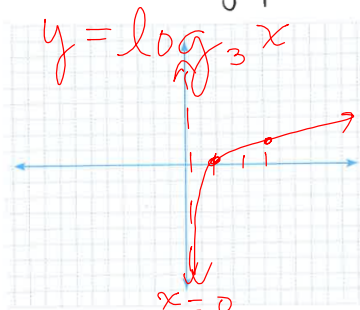
4. find $f(g(x))$

5. find $g(f(x))$

$$\begin{aligned} & = \sqrt{7 - (g(x))} - 6 & -(f(x) + 6)^2 + 7 \\ & = \sqrt{7 - [-(x+6)^2 + 7]} - 6 & -(\sqrt{7-x} - 6 + 6)^2 + 7 \\ & = \sqrt{7 + (x+6)^2 - 7} - 6 & -(\sqrt{7-x})^2 + 7 \\ & = \sqrt{(x+6)^2} - 6 & -(7-x) + 7 \\ & = x + 6 - 6 & -7 + x + 7 \\ & & x \end{aligned}$$

6. What do the results of 4 & 5 tell you about $f(x)$ & $g(x)$?

7. Accurately graph the parent, then describe the transformations and graph $y = 2 \log_3(x+4) - 1$. label asymptotes with their equation.



$3^y = x$

x	y
1	0
3	1
9	2

$x \rightarrow \text{left } 4$ $\times 2$ $- 1$

-3	-1
-1	1
5	3

8. Factor Completely. (Look for GCF first!)

a) $3x^2 + 24x + 36$ b) $4x^2 - 25$ c) $10x^2 - 45x$

Chapter 6 starts Tomorrow!
Exchange your book for Vol. 2.

HW: White worksheet
(HW after ch. 5)